

Application No.: 10/644,255  
Response to Office Action of March 14, 2006  
Attorney Docket: CULLN-001B

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicants:	Mark Cullen	)	Confirmation No.	6075
		)		
Serial No.:	10/644,255	)	Art Unit:	1764
		)		
Filed:	August 20, 2003	)	Examiner:	Tam M.
		)		Nguyen
For:	Treatment of Crude Oil Fractions,	)		
	Fossil Fuels & Products Thereof	)		

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Mail Stop AF  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

In response to the final Office Action of March 14, 2006, and further to Applicant's Amendment under 37 CFR § 1.116(b) filed March 20, 2006 in connection with the above-identified Application, Applicant submits this Pre-Appeal Brief Request for Review under the pilot program pursuant to the notice issued by the PTO in the OG Notices of July 12, 2005.

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Claims 40-88 are pending, all of which are directed to processes for upgrading a crude oil fraction to improve the performance and enhance the utility thereof. There are three groups of claims, namely, independent Claim 40 with its dependent Claims 41-57, independent Claim 58 with its dependent Claims 59-75, and independent Claim 76 with its dependent Claims 77-88.

Claims 76 and 83-88 are rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 3,616,375 to Inoue. Claims 40-75 and 78-88 are rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,500,219 to Gunnerman. Claims 77-81 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Inoue in view of Gunnerman. Claim 81 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Inoue alone or further in view of Gunnerman.

1. **The Inoue Patent Does Not Teach Heating a Crude Oil Fraction**

The rejection of parent Claim 76 and dependent claims 83-88 as anticipated by Inoue is untenable. **Independent Claim 76 specifically requires the step of heating the crude oil fraction** while exposing crude oil fraction to sonic energy. Inoue, in contrast, fails to teach **heating** the crude oil fraction while applying sonic energy. Inoue states that its method, "may be used to treat the sulfur-containing liquid **without substantial heating** thereof, (Col. 1, lines 57-59) and that, "in spite of the use of high-energy discharge, it has been found to be possible to keep the heating of the liquid at a minimum so that the reaction effectively takes place at **ambient temperature** or pressure." (Col. 2, lines 30-33, emphasis added). In fact, the Examiner concedes that the Inoue "process is operated at ambient temperature and pressure." (Office Action, page 4).

As such, the Inoue reference does not teach **all** of the limitations present in Applicant's independent Claim 76. The Examiner's rejection of Claims 76 and 83-88 under § 102(b) is therefore improper and should be withdrawn.

In fact, Inoue actually **teaches away from heating the crude oil fraction**, stating that, "thermal treatments are expensive and may, if carried out extensively, severely modify the

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composition of the oil.” (Col. 1, lines 32-33). As such, there would be no motivation whatsoever to modify the Inoue reference to teach all the limitations present in Applicant’s Claim 76. Accordingly, any § 103(a) rejection of Claim 76 would also be improper.

2. **There Is No Evidence Supporting the Motivation to Modify Gunnerman**

Claims 40-57 define processes that are practiced in the absence of an aqueous phase. Claims 58-75 define processes that are practiced in the absence of a surface active agent. Claims 76-88 define processes that are practiced in the absence of an oxidizing agent. Gunnerman provides no teaching or suggestion whatsoever to modify its processes in order to omit such elements.

In fact, Gunnerman requires the presence of a hydroperoxide, a surface active agent, and an aqueous liquid, since the process of Gunnerman is effectuated by allowing the aqueous and organic phases to separate after a sonic energy treatment, wherein the aqueous phase ultimately contains the sulfur products. (Col. 2, lines 26-44). A surface active agent and aqueous phase are essential to Gunnerman because they are the means by which the oxidized sulfur is extracted from the fossil fuel. (Column 3, lines 1-5; Column 4, line 61 to Column 5, line 1; Abstract).

As is apparent, the Office Action failed to identify any teaching in the prior art or any evidence of knowledge of one of ordinary skill in the art that would lead to this improper modification of Gunnerman. *In re Fritch*, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992) (references can be modified for purposes of a Section 103 rejection only if there is some suggestion or incentive to do so); MPEP § 2143.01. The Office Action concedes that Gunnerman does not disclose an operation in the absence of an aqueous phase (Office Action, page 5), the absence of a surface active agent (Office Action, page 6), and the absence of an oxidizing agent (Office Action page 6). Since no evidence has been provided, the Patent Office has not met its burden of establishing a *prima facie* case of obviousness. *In re Zurko*, 59 USPQ2d 1693, 1697 (Fed. Cir. 2001); MPEP § 2142 (“[I]mpermissible hindsight must be avoided and the [conclusion of obviousness] must be reached on the basis of the facts gleaned from the prior art”).

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The last Office Action relies to three cases that are easily distinguishable from the present matter. In *Ex Parte Wu*, the Board affirmed the Examiner's finding that it would have been obvious to omit a prior art element when the function attributed to that element *is not* desired or required. 10 USPQ2d 2031, 2032 (BPAI 1989). The court held in *In re Larson* that if a prior art element serves a particular purpose and if that particular purpose is not desired, it would be an obvious choice to eliminate the element and its function. 144 USPQ 347, 350 (CCPA 1965). Finally, in *In re Kuhle* the court held that if one is simplifying a prior art reference by deleting an element, and thereby deleting the element's function, it would be an obvious expedient over the prior art.

In sharp contrast to the above cases, Gunnerman requires an aqueous phase, surface active agent and an oxidizing agent in order for its process to function as intended, and any deletion of any of these elements would not be a simplification or removing an unneeded function; in fact, the ultimate separation of the organic and aqueous phases *is* the function of the Gunnerman process and to modify the Gunnerman reference in the manner suggested by the Examiner would render Gunnerman inoperable for its intended purpose. Such proposed modifications are inappropriate for an obviousness inquiry. *In re Gordon*, 221 USPQ 1125, 1127 (Fed. Cir. 1984).

3. There Is No Explanation of the Motivation to Modify Gunnerman to Omit the Use of a Surface Active Agent and an Oxidizing Agent

The rejections of Claims 58-75 and 78-88 as obvious over Gunnerman are said to be supported "if the function of the aqueous phase is undesirable." Office Action, page 6. But neither set of claims include the limitation of an aqueous phase. The rejection is therefore nonsensical. Assuming the Office Action intended to assert an obviousness rejection if the function of either a surface active agent and/or oxidizing agent were undesirable, that rationale is clearly without support and thus also inappropriate. As discussed above, the Patent Office has not provided any evidence supporting the motivation to modify Gunnerman by removing either the surface active agent or the oxidizing agent, both of which are required elements for the functionality of Gunnerman's processes.

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The record must point to some evidence establishing a suggestion or incentive in the prior art for making the proposed modification, without using the applicant's disclosure as the road map. MPEP §§ 2142, 2143.01. Not only is no such evidence provided, but in these rejections there is no explanation for the motivation to modify the teachings of Gunnerman to remove either the essential surface active agent or the essential oxidizing agent from the Gunnerman process.

**4. The rejection of Claims 77-81 and 82 under § 103(a) is likewise untenable**

The further rejection of Claim 77-81 under § 103(a) as unpatentable over Inoue in view of Gunnerman and the rejection of Claim 82 under § 103(a) as unpatentable over Inoue alone or in view of Gunnerman are also improper. As discussed above, Claims 77-82, which depend from Claim 76, include the step of heating a crude oil fraction in the absence of an oxidizing agent while exposing the crude oil fraction to sonic energy. The step of heating a crude oil fraction is absent in the teachings of Inoue and Gunnerman requires the presence of an oxidizing agent. To so modify Inoue and Gunnerman would not only contradict their respective teachings but, in the case of Gunnerman would render it unsuitable for its intended purpose. Accordingly, the rejection of Claims 77-82 are inappropriate and must be withdrawn.

If any additional fee is required, please charge Deposit Account Number 19-4330.

Respectfully submitted,

Date: 3/29/06

By:



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